

Data Transformation and Visualization

Data Transformation in Power Query

Open the dataset in **Power BI** and use Power Query to clean and transform the data:

1. Remove Unnecessary Columns

- Remove RowNumber and Surname (not relevant for analysis).

2. Rename Columns

- Make column names more readable:
 - CreditScore → Credit Score
 - NumOfProducts → Number of Products
 - HasCrCard → Has Credit Card
 - IsActiveMember → Active Member
 - EstimatedSalary → Estimated Salary

3. Data Type Conversion

- Convert data types where necessary:
 - CustomerId → Text
 - Credit Score, Age, Tenure, Balance, Number of Products, Estimated Salary → Whole Number/Decimal
 - Exited → Binary (0 or 1)

4. Handle Missing Values

- Fill missing values with defaults or drop rows with excessive missing data.

5. Create Custom Columns

- Create new calculated columns:
 - **Age Group** → Create using if-else conditions:
 - 18-25 → "Young"
 - 26-35 → "Adult"
 - 36-50 → "Middle-aged"
 - 51+ → "Senior"
 - **Balance Status** → Create a column to classify balance status:

- Balance = 0 → "Zero Balance"
- Balance > 0 → "Active Balance"
- **Retention Status** → Based on Exited column:
 - 0 → "Retained"
 - 1 → "Churned"

6. Transform Binary Data to Labels

- Convert Gender, Exited, Active Member, and Has Credit Card to descriptive labels:
 - 1 → "Yes"
 - 0 → "No"